NEVADA DIVISION OF ENVIRONMENTAL PROTECTION

FACT SHEET
(pursuant to NAC 445A.236)

Applicant: NV Energy
6226 W. Sahara Ave.
Las Vegas, NV 89146

Permit Number: NEV40035

Location: NV Energy Clark Generating Station
5640 Stephanie Street
Las Vegas, NV 89122
Latitude: 36° 05' 21" N, Longitude: 115° 03' 02" W
Section 28, T21S, R62E MDB&M

Evaporation/Storage Ponds (Sampling Locations):

001: Pond A Sampling Location
Latitude: 36° 05' 25.54" N, Longitude: 115° 03' 02.26" W

002: Pond B Sampling Location
Latitude: 36° 05' 24.41" N, Longitude: 115° 03' 10.22" W

003: Pond C Sampling Location
Latitude: 36° 05' 21.26" N, Longitude: 115° 03' 02.02" W

004: Pond D Sampling Location
Latitude: 36° 05' 20.99" N, Longitude: 115° 03' 07.64" W

005: Pond E Sampling Location
Latitude: 36° 05' 21.15" N, Longitude: 115° 03' 12.67" W

General: The Permittee, NV Energy (NVE), owns and operates the Clark Generating Station (Clark) at 5640 Stephanie Street, in Las Vegas, Clark County, Nevada. Clark uses natural gas to fuel combined cycle and simple cycle units. The rated capacity is 690 megawatts for the older units and 600 megawatts for the newer units. A Heat Recovery Steam Generator (HRSG) is utilized in the combined cycle processes to increase efficiency at the facility. Clark currently operates and uses seven on-site storage ponds for evaporation or reuse at the facility: Treated Water Pond (TWP), Ops Overflow Pond (OO Pond), and Ponds A, B, C, D, and E. The TWP and OO Pond are concrete with secondary high density polyethylene (HDPE) liners, and Ponds A, B, C, D, and E are all lined with HDPE. Treated effluent from the Clark County Advanced Wastewater Treatment Plant (AWT) is routed to Pond C for storage and then recycled to the cooling towers; this and recycled water stored in Ponds A and B are the primary sources of cooling tower water. Cooling tower blowdown goes to Ponds A and B for evaporation or recycle, and HRSG cooling tower blowdown goes to Pond C for evaporation or recycle. Pond C receives all the water from the AWT, and is primarily used as a water reserve but this water can be used for recycle in the cooling towers. The water from Ponds A and B goes to a brine concentrator, which separates the flow into high suspended solids (TSS) wastewater and high dissolved solids (TDS) wastewater, and treated recycle water. The high TSS water is routed to a sludge dewatering system and then sent to the OO Pond for evaporation and solids disposal. The high TDS water is routed to the

concentrated brine disposal evaporative Ponds A and B for further plant recycle. The treated water is recycled by routing the water to the storage tank and treating it in the pre-treatment system. Additionally, the brine concentrated treated water is routed to the TW Pond and then routed to Units 9 and 10 cooling tower basin or back into Ponds A and B for further plant recycle. All of the water discharging to the D and E Ponds, and the Ops Overflow (OO) Pond evaporates and is not used for recycle, and all of the water entering Ponds D and E, and the OO Pond is from Ponds A, B, and C; therefore sampling of Ponds D and E, and the OO Pond is not required. In addition to monitoring requirements for the Ponds (Table I.), monitoring and reporting for each of the monitoring wells is also required (Table II.).

The pre-treatment systems use Demineralization Unit Trailers to treat the water to a high quality for use in the HRSGs and/or in the NOx Injection Systems. Any waste generated from these pre-treatment systems is routed to Ponds A and B. A series of wells in and around the facility provide groundwater quality information on a quarterly basis and provide evidence of pond liner leakage. NVE has applied for renewal of a 5-year Groundwater Discharge Permit, NEV40035, to discharge treated effluent and untreated industrial cooling tower water from facility operations, to the on-site storage impoundments, for evaporation and/or reuse in facility operations.

Flow: M&R. The facility's design treatment capacity is rated at 37.5 million gallons per day (MGD). Current operational daily flow is 0.067 MGD. The daily maximum and 30-day average flow rates are requested and permitted at 37.5 MGD.

Site Groundwater: The water table varies in depth from 10-15 feet below ground surface. A series of wells in and around the facility provide groundwater quality information on a quarterly basis; data has been collected since 1996. Historic data indicate naturally elevated concentrations of TDS, sulfate, chloride, nitrate, magnesium, sodium, and calcium.

Corrective Action Sites: There are three Bureau of Corrective Actions (BCA) remediation sites within a one-mile radius of the facility. Two of the sites are remediation activities at the Clark Generating Station, and the other is generally the BMI Complex. The BCA case officers have stated that they do not expect any impacts on the remediation activities due to the discharge to the evaporation ponds.

Well Head and Drinking Water Supply Protection: The facility is not within 6,000 feet of a public water supply, or a drinking water protection area (DWPA). The facility is not within an established Wellhead Protection Area (WHPA).

Proposed Effluent Limitations, Sampling and Monitoring Requirements: During the period beginning on the effective date of this permit and lasting until the permit expires, the Permittee is authorized to discharge treated effluent and non-treated industrial process water to the on-site ponds for evaporation and/or reuse. Quarterly/annual monitoring of the Ponds for the parameters listed below is required by the permit.

Table I. Effluent Limitations, Sampling and Monitoring Requirements

Parameters	Units	Effluent Limitations		Monitoring Requirements		
		30-Day Average	Daily Maximum	Sampling Locations	Monitoring Frequency	Monitoring Type
Discharge Flow Rate [1]	MGD	M&R	37.5	Σ (A, B, C, + TW)	Continuous	Meter

pH –SV [2]	S.U.	---	M&R	All	Quarterly	Discrete
Temperature [2]	^{o}C	---	M&R	All	Quarterly	Discrete
Total Hardness as $CaCo_3$ [2]	mg/l	---	M&R	All	Quarterly	Discrete
Bicarbonate Alkalinity [2]	mg/l	---	M&R	All	Quarterly	Discrete
Nitrate as N [2]	mg/l	---	M&R	All	Quarterly	Discrete
Sulfate [2]	mg/l	---	M&R	All	Quarterly	Discrete
TDS [2]	mg/l	---	M&R	All	Quarterly	Discrete
TPH [2]	mg/l	---	1.0	All	Quarterly	Discrete
Priority Pollutant Metals [3]	mg/l	---	M&R	All	Annually	Discrete
Total Volume of Sludge [4]	tons	---	M&R	All, D, E, OO	Annually	Discrete

NOTES: **A = Pond A; B = Pond B; C = Pond C; TW = Treated Water Pond; All = Ponds A, B, C, and TW; D = Pond D; E = Pond E; OO = Ops Overflow Pond.**

MGD: million gallons per day
mg/l: milligrams per liter
S.U.: Standard pH units
M&R: Monitor & Report
SV: single value
TDS: Total Dissolved Solids
TPH: Total Petroleum Hydrocarbons, purgeable and extractable, C6-C40

1. Monitor continuously, as discharge occurs, and report quarterly, total combined daily discharge to Ponds A, B, C, & TW. Report the daily maximum and 30-day average discharge rates.
2. Sample and analyze each of the Ponds once per quarter and report quarterly, for each of the parameters listed above. Report values as daily maximum values.
3. Sample and report in the calendar year 4th quarter (January) the following metals: Antimony, Arsenic, Beryllium, Cadmium, Chromium, Copper, Lead, Mercury, Nickel, Selenium, Silver, Thallium, and Zinc. Metals shall be total, recoverable.
4. Monitor the total volume of sludge removed from all ponds as it is removed for disposal, and report the total volume annually.

Quarterly/annual monitoring of the monitoring wells is also required for the parameters listed below.

Table II. Monitoring Well Sampling and Reporting Requirements

Parameters	Units	Effluent Limitations		Monitoring Requirements		
		30-Day Average	Daily Maximum	Sampling Locations	Monitoring Frequency	Monitoring Type
Static Water Level	ft	M&R	M&R	All	Continuous	Meter
Depth to Water [1]	ft	M&R	M&R	All	Continuous	Meter
pH –SV [2]	S.U.	---	M&R	All	Quarterly	Discrete
Total Hardness as $CaCo_3$ [2]	mg/l	---	M&R	All	Quarterly	Discrete
Calcium [2]	mg/l	---	M&R	All	Quarterly	Discrete
Chloride [2]	mg/l	---	M&R	All	Quarterly	Discrete
Sodium [2]	mg/l	---	M&R	All	Quarterly	Discrete
Magnesium [2]	mg/l	---	M&R	All	Quarterly	Discrete
Bicarbonate [2]	mg/l	---	M&R	All	Quarterly	Discrete
Nitrate as N [2]	mg/l	---	M&R	All	Quarterly	Discrete
Sulfate [2]	mg/l	---	M&R	All	Quarterly	Discrete
TDS [2]	mg/l	---	M&R	All	Quarterly	Discrete
Priority Pollutant Metals [3]	mg/l	---	M&R	All	Annually	Discrete

NOTES: **All = Wells: MW-1, B-4, B-5, B-6, B-7, P-3, P-5, P-6, B-11, B-16, B-14R, B-18R, and B-27.**

MGD: million gallons per day
mg/l: milligrams per liter
S.U.: Standard pH units
M&R: Monitor & Report
SV: single value
TDS: Total Dissolved Solids
TPH: Total Petroleum Hydrocarbons, purgeable and extractable, full range, C6-C40

1. Monitor depth to water, at time of sampling, and report quarterly on DMR Form.
2. Sample and analyze each of the Ponds once per quarter and report quarterly, for each of the parameters listed above. Report values as daily maximum values.
3. Sample and report in the calendar year 4th quarter (January) the following metals: Antimony, Arsenic, Beryllium, Cadmium, Chromium, Copper, Lead, Mercury, Nickel, Selenium, Silver, Thallium, and Zinc. Metals shall be total, recoverable.

Rationale for Permit Requirements: The Division has established the monitoring requirements in Tables I and II to ensure that waters of the State are not degraded as a result of project activities.

Flow: M&R. The daily maximum and 30-day average flow rates are requested and permitted at 37.5 MGD.

pH: M&R. Sample quarterly to provide additional information on Pond supernatant quality should a catastrophic leak in the liner system occur.

Temperature, Total Hardness, Bicarbonate Alkalinity, Nitrate, Sulfate, and TDS: M&R. Sample quarterly to gain additional information on Pond supernatant quality should a catastrophic leak in the liner system occur.

TPH: 1.0 mg/l. The limit is based on Bureau of Corrective Actions remediation action standards.

Priority Pollutant Metals: M&R. Sample annually to gain information on Pond supernatant quality should a catastrophic leak in the liner system occur. Historic data shows no exceedances of State water quality standards.

Schedule of Compliance: The Permittee shall implement and comply with the provisions of the schedule of compliance after approval by the Administrator, including in said implementation and compliance, any additions or modifications which the Administrator may make in approving the schedule of compliance:

- The Permittee shall achieve compliance with the effluent limitations upon issuance of the permit.

- Within 90 days of the permit effective date (**MM DD, 2011**), the Permittee shall submit to the Division, for review and approval, an updated Operations & Maintenance (O&M) Manual prepared in accordance with the Division's WTS-2 guidance: *Minimum Information Required for an Operations and Maintenance Manual*. The O&M Manual shall include information on the operation and maintenance of the Ponds and groundwater monitoring well system.

All schedule of compliance submittals and evidence of compliance documents shall be submitted to the Division of Environmental Protection at the address listed below:

Division of Environmental Protection
Bureau of Water Pollution Control
ATTN: Compliance Coordinator
901 S. Stewart Street, Suite 4001
Carson City, Nevada 89701

Before implementing changes to an updated and approved O&M Manual, the Permittee shall submit any and all proposed changes to the approved O&M Manual to the Division for review and approval.

Proposed Determination: The Division has made the tentative determination to renew the proposed discharge permit for a period of five (5) years.

Procedures for Public Comment: The Notice of the Division's intent to issue a renewal groundwater discharge permit authorizing this facility to discharge to groundwaters of the State for a five-year period, subject to the conditions contained within the permit, is being sent to the **Las Vegas Review Journal** for publication. The Notice is being mailed to interested persons on our mailing list. Anyone wishing to comment on the proposed permit can do so in writing for a period of thirty (30) days following the date of publication of the public notice in the newspaper. The comment period can be extended at the discretion of the Administrator. The deadline date and time by which all comments are to be submitted (via postmarked mail or time-stamped faxes, e-mails, or hand-delivered items) to the Division is **July 11, 2011 by 5:00 P.M.**

A public hearing on the proposed determination can be requested by the applicant, any affected State, any affected interstate agency, the Regional Administrator or any interested agency, person or group of persons. The request must be filed within the comment period and must indicate the interest of the person filing the request and the reasons why a hearing is warranted.

Any public hearing determined by the Administrator to be held must be conducted in the geographical area of the proposed discharge or any other area the Administrator determines to be appropriate. All public hearings must be conducted in accordance with NAC 445A.238.

The final determination of the Administrator may be appealed to the State Environmental Commission pursuant to NRS 445A.605.

Prepared by: Jeryl R. Gardner, P.E.
Date: June, 2011

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